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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,511	03/27/2007	Markus Vos	2133.126USU	8935
27623 7590 11/18/2009 OHLANDT, GREELEY, RUGGIERO & PERLE, LLP ONE LANDMARK SQUARE, 10TH FLOOR STAMFORD, CT 06901			EXAMINER GHYKA, ALEXANDER G	
			ART UNIT	PAPER NUMBER
			2812	
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			11/18/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/567,511

**Applicant(s)**

VOS, MARKUS

**Examiner**

ALEXANDER G. GHYKA

**Art Unit**

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 26-28 and 30-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-28 and 30-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

Applicants' response of 7/20/2009 has been considered and entered in the record. The rejections of record are withdrawn in view of Applicants' amendments. Applicants' arguments have been considered, but are moot in view of the new grounds of rejection. Claims 26-28 and 30-44 are now under consideration.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 26-28, 30-33 and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gantley (US 4,138,304) in view of Spooner et al (US 2002/0096743) and Wang et al (US 6,319,754).**

The present Claims require a process for producing a plurality of components, comprising the steps of; joining a first surface of a substrate to a first surface of a carrier with a bonding force; machining the plurality of components out of the substrate; releasing the bonding force between the carrier and the plurality of components with the application of UV light to the bonding force; and detaching the plurality of components from the carrier in order to separate the plurality of components.

With respect to Claim 26, Gantley disclose a method for producing a plurality of components, which comprises the following steps: making available a substrate (30),

making available a support (40), connecting (joining) the first surface of the support (40) (column 6, lines 5 to 24); machining the components of the substrate (30); releasing the adhesive force of the support (see column 7, lines 36 to 60), and detaching of the components from the support (40) so as to separate the components (column 6, line 66 to column 8, line 23). Gantley discloses the use of an adhesive layer. See the Abstract.

Gantley differs from the present Claims in that it does not explicitly disclose the application of UV light to the bonding force to release it.

Spooner discloses a method for protecting micro electromechanical systems structures during dicing of a wafer. Spooner et al disclose UV adhesive tape to attach a MEMS wafer to a support, and the fact that upon irradiation with UV light the bonding force is released. See paragraphs 127-130 and 144-146.

Wang et al disclose a wafer dicing process and the use of a UV curable adhesive tape, which releases the bonding force upon the application of UV light, to attach a wafer to a support.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to use the UV curable adhesive layer of Spooner et al and Wang et al, in the process of Gantley, for its use as an adhesive layer. The use of a known material, UV curable adhesive tape, for its known benefit, providing adhesion between a wafer and a support, would have been *prima facie* obvious to one of ordinary skill in the art.

With respect to Claim 27, the plurality of components is separated from one another laterally during the machining step, as Gantley discloses sawing the wafer pellets. See column 2, lines 45-55.

With respect to Claim 28, the substrate comprises glass. See column 1, lines 30-35.

With respect to Claim 30, Gantley discloses the step of machining comprises removing material from a second surface of the substrate, the second surface being on the opposite side of the substrate from the first surface, the material removed being at least as far as the first surface of the substrate. See column 7, lines 35-60.

With respect to Claim 31, the step of machining comprises removing a portion of material from the first surface of the carrier. See column 7, lines 35-60.

With respect to Claim 32, the step of machining comprises removing portions of the substrate and the carrier in succession until a position between the first surface and a second surface of the carrier material is reached. See column 7, lines 35-60.

With respect to Claim 33, the step of machining comprises machining a multiplicity of laterally adjacent components out of the substrate in one working step. See column 7, lines 35-60.

With respect to Claim 38, the wafer has devices on one side. See Figure 6, (30) and corresponding text.

With respect to Claim 39, the detaching step comprises using a vacuum to separate the plurality of components from the carrier. See column 6, lines 5-10 and column 8, 5-15.

**Claims 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gantley (US 4,138,304), Spooner et al (US 2002/0096743) and Wang et al (US 6,319,754) as applied to claims 26-28, 30-33 and 38-39 above, and further in view of Duran et al (US 4,828,052).**

Gantley, Spooner et al (US 2002/0096743) and Wang et al (US 6,319,754) are relied upon as discussed above.

However, Gantley, Spooner et al (US 2002/0096743) and Wang et al (US 6,319,754) do not disclose vibratory lapping (ultrasound drilling).

Duran et al disclose an ultrasonic drilling apparatus. With respect to Claim 40, Duran et al disclose that ultrasonic drilling is used to machine ceramics, glasses and refractory materials..See column 1, lines 10-15.

It would have been obvious for one of ordinary skill in the art to modify the disclosure of Gauntley, Spooner et al (US 2002/0096743) and Wang et al (US 6,319,754) and use an ultrasonic device as disclosed by Duran et al for its benefit in machining hard surfaces. The use of a known device, ultrasonic drill, for its known benefit, machining hard surfaces, would have been *prima facie* to one of ordinary skill in the art.

With respect to Claim 35, the Examiner takes Official Notice that it is known to dice a substrate by drilling overlapping punches.

With respect to Claim 36, Duran et al discloses a ring structure. See column 4, lines 20-30 and Figures 1-3.

With respect to Claim 37, Duran et al disclose the use of a slurry. See column 3, lines 10-20.

**Claims 40-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gantley (US 4,138,304), Spooner et al (US 2002/0096743) and Wang et al (US 6,319,754) as applied to claims 26-28, 30-33 and 38-39 above, and further in view of Dietz (US 2003/0148057) .**

Gantley, Spooner et al (US 2002/0096743) and Wang et al (US 6,319,754) are relied upon as discussed above.

However Gantley, Spooner et al (US 2002/0096743) and Wang et al (US 6,319,754) do not disclose the use of a soldering agent.

Dietz et al disclose a method for separating glass sheets in the manufacture of electronic components. See paragraphs 2-4.

With respect to Claim 34, Dietz disclose the application of the solder to the surfaces being separated by printing. See paragraph 21.

It would have been obvious for one of ordinary skill in the art, at the time of the invention, to use a solder in the process of Gantley, Spooner et al (US 2002/0096743) and Wang et al (US 6,319,754), for its benefit in joining together surfaces which are going to be machined, as disclosed by Dietz. The use of a known compound, solder, for its known benefit, immobilizing surfaces which will be machined, would have been *prima facie* obvious to one of ordinary skill in the art.

With respect to Claim 41, Gantley disclose the application of protective layers to the substrate. See column 6, lines 5-60.

With respect to the order of the steps as required by Claims 43-44, as the cited prior art disclose all of the layers and steps, and the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. See *In re Burnhans* , 154 F. 2d 690, 69 USPQ 330 (CCPA 1946).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER G. GHYKA whose telephone number is (571)272-1669. The examiner can normally be reached on Monday through Friday 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on (571) 272-2194. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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AGG  
November 13, 2009

/Alexander G. Ghyka/  
Primary Examiner, Art Unit 2812